

116TH CONGRESS  
1ST SESSION

**S.** \_\_\_\_\_

To amend the Public Utility Regulatory Policies Act of 1978 to assist States in adopting updated interconnection procedures and tariff schedules and standards for supplemental, backup, and standby power fees for projects for combined heat and power technology and waste heat to power technology, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

Mrs. SHAHEEN introduced the following bill; which was read twice and referred to the Committee on \_\_\_\_\_

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**A BILL**

To amend the Public Utility Regulatory Policies Act of 1978 to assist States in adopting updated interconnection procedures and tariff schedules and standards for supplemental, backup, and standby power fees for projects for combined heat and power technology and waste heat to power technology, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Heat Efficiency  
5 through Applied Technology Act” or the “HEAT Act”.

1 **SEC. 2. FINDINGS.**

2 Congress finds that—

3 (1) combined heat and power technology, also  
4 known as cogeneration, is a technology that effi-  
5 ciently produces electricity and thermal energy at  
6 the point of use of the technology;

7 (2) by combining the provision of both elec-  
8 tricity and thermal energy in a single step, combined  
9 heat and power technology makes significantly more  
10 efficient use of fuel compared to separate generation  
11 of heat and power, which has significant economic  
12 and environmental advantages;

13 (3) waste heat to power is a technology that  
14 captures heat discarded by an existing industrial  
15 process and uses that heat to generate power with  
16 no additional fuel and no incremental emissions, re-  
17 ducing the need for electricity from other sources  
18 and the grid, and any associated emissions;

19 (4) waste heat or waste heat to power is consid-  
20 ered renewable energy in 17 States;

21 (5)(A) a 2012 joint report by the Department  
22 of Energy and the Environmental Protection Agency  
23 estimated that by achieving the national goal out-  
24 lined in Executive Order 13624 (77 Fed. Reg.  
25 54779) (September 5, 2012) of deploying 40  
26 gigawatts of new combined heat and power tech-

1 nology by 2020, the United States would increase  
2 the total combined heat and power capacity of the  
3 United States by 50 percent in less than a decade;  
4 and

5 (B) additional efficiency would—

6 (i) save 1,000,000,000,000,000 BTUs of  
7 energy; and

8 (ii) reduce emissions by 150,000,000 met-  
9 ric tons of carbon dioxide annually, a quantity  
10 equivalent to the emissions from more than  
11 25,000,000 cars;

12 (6) a 2012 report by the Environmental Protec-  
13 tion Agency estimated the amount of waste heat  
14 available at a temperature high enough for power  
15 generation from industrial and nonindustrial appli-  
16 cations represents an additional 10 gigawatts of  
17 electric generating capacity on a national basis;

18 (7) distributed energy generation, including  
19 through combined heat and power technology and  
20 waste heat to power technology, has ancillary bene-  
21 fits, such as—

22 (A) removing load from the electricity dis-  
23 tribution grid; and

24 (B) improving the overall reliability of the  
25 electricity distribution system; and

1 (8)(A) a number of regulatory barriers impede  
2 broad deployment of combined heat and power tech-  
3 nology and waste heat to power technology; and

4 (B) a 2008 study by Oak Ridge National Lab-  
5 oratory identified interconnection issues, regulated  
6 fees and tariffs, and environmental permitting as  
7 areas that could be streamlined with respect to the  
8 provision of combined heat and power technology  
9 and waste heat to power technology.

10 **SEC. 3. DEFINITIONS.**

11 (a) IN GENERAL.—In this Act:

12 (1) COMBINED HEAT AND POWER TECH-  
13 NOLOGY.—The term “combined heat and power  
14 technology” means the generation of electric energy  
15 and heat in a single, integrated system that meets  
16 the efficiency criteria in clauses (ii) and (iii) of sec-  
17 tion 48(c)(3)(A) of the Internal Revenue Code of  
18 1986, under which heat that is conventionally re-  
19 jected is recovered and used to meet thermal energy  
20 requirements.

21 (2) OUTPUT-BASED EMISSION STANDARD.—The  
22 term “output-based emission standard” means a  
23 standard that relates emissions to the electrical,  
24 thermal, or mechanical productive output of a device

1 or process rather than the heat input of fuel burned  
2 or pollutant concentration in the exhaust.

3 (3) QUALIFIED WASTE HEAT RESOURCE.—

4 (A) IN GENERAL.—The term “qualified  
5 waste heat resource” means—

6 (i) exhaust heat or flared gas from  
7 any industrial or commercial process;

8 (ii) waste gas or industrial tail gas  
9 that would otherwise be flared, incinerated,  
10 or vented;

11 (iii) a pressure drop in any gas for an  
12 industrial or commercial process; or

13 (iv) any other form of waste heat re-  
14 source as the Secretary may determine.

15 (B) EXCLUSION.—The term “qualified  
16 waste heat resource” does not include a heat re-  
17 source from a process the primary purpose of  
18 which is the generation of electricity using a  
19 fossil fuel.

20 (4) WASTE HEAT TO POWER TECHNOLOGY.—

21 The term “waste heat to power technology” means  
22 a system that generates electricity through the re-  
23 covery of a qualified waste heat resource.

1 (b) PURPA DEFINITIONS.—Section 3 of the Public  
2 Utility Regulatory Policies Act of 1978 (16 U.S.C. 2602)  
3 is amended by adding at the end the following:

4 “(22) COMBINED HEAT AND POWER TECH-  
5 NOLOGY.—The term ‘combined heat and power tech-  
6 nology’ means the generation of electric energy and  
7 heat in a single, integrated system that meets the ef-  
8 ficiency criteria in clauses (ii) and (iii) of section  
9 48(c)(3)(A) of the Internal Revenue Code of 1986,  
10 under which heat that is conventionally rejected is  
11 recovered and used to meet thermal energy require-  
12 ments.

13 “(23) QUALIFIED WASTE HEAT RESOURCE.—

14 “(A) IN GENERAL.—The term ‘qualified  
15 waste heat resource’ means—

16 “(i) exhaust heat or flared gas from  
17 any industrial process;

18 “(ii) waste gas or industrial tail gas  
19 that would otherwise be flared, incinerated,  
20 or vented;

21 “(iii) a pressure drop in any gas for  
22 an industrial or commercial process; or

23 “(iv) any other form of waste heat re-  
24 source as the Secretary may determine.

1           “(B) EXCLUSION.—The term ‘qualified  
2 waste heat resource’ does not include a heat re-  
3 source from a process the primary purpose of  
4 which is the generation of electricity using a  
5 fossil fuel.

6           “(24) WASTE HEAT TO POWER TECHNOLOGY.—  
7 The term ‘waste heat to power technology’ means a  
8 system that generates electricity through the recov-  
9 ery of a qualified waste heat resource.”.

10 **SEC. 4. UPDATED INTERCONNECTION PROCEDURES AND**  
11 **TARIFF SCHEDULE.**

12       (a) ADOPTION OF STANDARDS.—Section 111(d) of  
13 the Public Utility Regulatory Policies Act of 1978 (16  
14 U.S.C. 2621(d)) is amended by adding at the end the fol-  
15 lowing:

16           “(20) UPDATED INTERCONNECTION PROCE-  
17 DURES AND TARIFF SCHEDULE.—

18           “(A) IN GENERAL.—Not later than 1 year  
19 after the date of enactment of this paragraph,  
20 the Secretary, in consultation with the Commis-  
21 sion and other appropriate agencies, shall es-  
22 tablish, for generation with nameplate capacity  
23 up to 20 megawatts using all fuels—

24           “(i) guidance for technical inter-  
25 connection standards that ensure inter-

1 operability with existing Federal inter-  
2 connection rules;

3 “(ii) model interconnection proce-  
4 dures, including appropriate fast track pro-  
5 cedures; and

6 “(iii) model rules for determining and  
7 assigning interconnection costs.

8 “(B) STANDARDS.—The standards estab-  
9 lished under subparagraph (A) shall, to the  
10 maximum extent practicable, reflect current  
11 best practices (as demonstrated in model codes  
12 and rules adopted by States) to encourage the  
13 use of distributed generation (such as combined  
14 heat and power technology and waste heat to  
15 power technology) while ensuring the safety and  
16 reliability of the interconnected units and the  
17 distribution and transmission networks to which  
18 the units connect.

19 “(C) VARIATIONS.—In establishing the  
20 model standards under subparagraph (A), the  
21 Secretary shall consider the appropriateness of  
22 using standards or procedures that vary based  
23 on unit size, fuel type, or other relevant charac-  
24 teristics.”.

25 (b) COMPLIANCE.—



1           (1) TIME LIMITATIONS.—Section 112(b) of the  
2           Public Utility Regulatory Policies Act of 1978 (16  
3           U.S.C. 2622(b)) is amended by adding at the end  
4           the following:

5           “(7)(A) Not later than 90 days after the date  
6           on which the Secretary completes the standards re-  
7           quired under section 111(d)(20), each State regu-  
8           latory authority (with respect to each electric utility  
9           for which the authority has ratemaking authority)  
10          shall commence the consideration referred to in that  
11          section, or set a hearing date for such consideration,  
12          with respect to each standard.

13          “(B) Not later than 2 years after the date on  
14          which the Secretary completes the standards re-  
15          quired under section 111(d)(20), each State regu-  
16          latory authority (with respect to each electric utility  
17          for which the authority has ratemaking authority)  
18          shall—

19                  “(i) complete the consideration under sub-  
20                  paragraph (A);

21                  “(ii) make the determination referred to in  
22                  section 111 with respect to each standard es-  
23                  tablished under section 111(d)(20); and

24                  “(iii) submit to the Secretary and the  
25                  Commission a report detailing the updated

1 plans of the State regulatory authority for  
2 interconnection procedures and tariff schedules  
3 that reflect best practices to encourage the use  
4 of distributed generation.”.

5 (2) FAILURE TO COMPLY.—Section 112(c) of  
6 the Public Utility Regulatory Policies Act of 1978  
7 (16 U.S.C. 2622(c)) is amended by adding at the  
8 end the following: “In the case of each standard es-  
9 tablished under paragraph (20) of section 111(d),  
10 the reference contained in this subsection to the date  
11 of enactment of this Act shall be deemed to be a ref-  
12 erence to the date of enactment of that paragraph.”.

13 (3) PRIOR STATE ACTIONS.—

14 (A) IN GENERAL.—Section 112 of the  
15 Public Utility Regulatory Policies Act of 1978  
16 (16 U.S.C. 2622) is amended by adding at the  
17 end the following:

18 “(g) PRIOR STATE ACTIONS.—Subsections (b) and  
19 (c) shall not apply to a standard established under para-  
20 graph (20) of section 111(d) in the case of any electric  
21 utility in a State if, before the date of enactment of this  
22 subsection—

23 “(1) the State has implemented for the electric  
24 utility the standard (or a comparable standard);

1           “(2) the State regulatory authority for the  
2 State has conducted a proceeding after December  
3 31, 2016, to consider implementation of the stand-  
4 ard (or a comparable standard) for the electric util-  
5 ity; or

6           “(3) the State legislature has voted on the im-  
7 plementation of the standard (or a comparable  
8 standard) for the electric utility.”.

9           (B) CROSS-REFERENCE.—Section 124 of  
10 the Public Utility Regulatory Policies Act of  
11 1978 (16 U.S.C. 2634) is amended by adding  
12 at the end the following: “In the case of each  
13 standard established under paragraph (20) of  
14 section 111(d), the reference contained in this  
15 subsection to the date of enactment of this Act  
16 shall be deemed to be a reference to the date  
17 of enactment of that paragraph.”.

18 **SEC. 5. SUPPLEMENTAL, BACKUP, AND STANDBY POWER**

19 **FEEES OR RATES.**

20           (a) ADOPTION OF STANDARDS.—Section 111(d) of  
21 the Public Utility Regulatory Policies Act of 1978 (16  
22 U.S.C. 2621(d)) (as amended by section 4(a)) is amended  
23 by adding at the end the following:

24           “(21) SUPPLEMENTAL, BACKUP, AND STANDBY  
25 POWER FEES OR RATES.—

1           “(A) IN GENERAL.—Not later than 1 year  
2 after the date of enactment of this paragraph,  
3 the Secretary, in consultation with the Commis-  
4 sion and other appropriate agencies, shall es-  
5 tablish model rules and procedures for deter-  
6 mining fees or rates for supplementary power,  
7 backup or standby power, maintenance power,  
8 and interruptible power supplied to facilities  
9 that operate combined heat and power tech-  
10 nology and waste heat to power technology that  
11 appropriately allow for adequate cost recovery  
12 by an electric utility but are not excessive.

13           “(B) FACTORS.—In establishing model  
14 rules and procedures for determining fees or  
15 rates described in subparagraph (A), the Sec-  
16 retary shall consider—

17           “(i) the best practices that are used to  
18 model outage assumptions and contin-  
19 gencies to determine the fees or rates;

20           “(ii) the appropriate duration, mag-  
21 nitude, or usage of demand charge ratch-  
22 ets;

23           “(iii) the benefits to the utility and  
24 ratepayers, such as increased reliability,  
25 fuel diversification, enhanced power qual-

1           ity, and reduced electric losses from the  
2           use of combined heat and power technology  
3           and waste heat to power technology by a  
4           qualifying facility; and

5                   “(iv) alternative arrangements to the  
6           purchase of supplementary, backup, or  
7           standby power by the owner of combined  
8           heat and power technology and waste heat  
9           to power technology generating units if the  
10          alternative arrangements—

11                           “(I) do not compromise system  
12                           reliability; and

13                           “(II) are nondiscretionary and  
14                           nonpreferential.”.

15          (b) COMPLIANCE.—

16                   (1) TIME LIMITATIONS.—Section 112(b) of the  
17          Public Utility Regulatory Policies Act of 1978 (16  
18          U.S.C. 2622(b)) (as amended by section 4(b)(1)) is  
19          amended by adding at the end the following:

20                           “(8)(A) Not later than 90 days after the date  
21          on which the Secretary completes the standards re-  
22          quired under section 111(d)(21), each State regu-  
23          latory authority (with respect to each electric utility  
24          for which the authority has ratemaking authority)  
25          shall commence the consideration referred to in that

1 section, or set a hearing date for such consideration,  
2 with respect to each standard.

3 “(B) Not later than 2 years after the date on  
4 which the Secretary completes the standards re-  
5 quired under section 111(d)(21), each State regu-  
6 latory authority (with respect to each electric utility  
7 for which the authority has ratemaking authority)  
8 shall—

9 “(i) complete the consideration under sub-  
10 paragraph (A);

11 “(ii) make the determination referred to in  
12 section 111 with respect to each standard es-  
13 tablished under section 111(d)(21); and

14 “(iii) submit to the Secretary and the  
15 Commission a report detailing the updated  
16 plans of the State regulatory authority for sup-  
17 plemental, backup, and standby power fees that  
18 reflect best practices to encourage the use of  
19 distributed generation.”.

20 (2) FAILURE TO COMPLY.—Section 112(c) of  
21 the Public Utility Regulatory Policies Act of 1978  
22 (16 U.S.C. 2622(c)) (as amended by section 4(b)(2))  
23 is amended by adding at the end the following: “In  
24 the case of each standard established under para-  
25 graph (21) of section 111(d), the reference con-

1       tained in this subsection to the date of enactment of  
2       this Act shall be deemed to be a reference to the  
3       date of enactment of that paragraph.”

4               (3) PRIOR STATE ACTIONS.—

5                       (A) IN GENERAL.—Section 112 of the  
6       Public Utility Regulatory Policies Act of 1978  
7       (16 U.S.C. 2622) (as amended by section  
8       4(b)(3)(A)) is amended by adding at the end  
9       the following:

10       “(h) PRIOR STATE ACTIONS.—Subsections (b) and  
11       (c) shall not apply to a standard established under para-  
12       graph (21) of section 111(d) in the case of any electric  
13       utility in a State if, before the date of enactment of this  
14       subsection—

15               “(1) the State has implemented for the electric  
16       utility the standard (or a comparable standard);

17               “(2) the State regulatory authority for the  
18       State has conducted a proceeding after December  
19       31, 2016, to consider implementation of the stand-  
20       ard (or a comparable standard) for the electric util-  
21       ity; or

22               “(3) the State legislature has voted on the im-  
23       plementation of the standard (or a comparable  
24       standard) for the electric utility.”.

1           (B) CROSS-REFERENCE.—Section 124 of  
2           the Public Utility Regulatory Policies Act of  
3           1978 (16 U.S.C. 2634) (as amended by section  
4           4(b)(3)(B)) is amended by adding at the end  
5           the following: “In the case of each standard es-  
6           tablished under paragraph (21) of section  
7           111(d), the reference contained in this sub-  
8           section to the date of enactment of this Act  
9           shall be deemed to be a reference to the date  
10          of enactment of that paragraph.”.

11 **SEC. 6. UPDATING OUTPUT-BASED EMISSIONS STANDARDS.**

12          (a) ESTABLISHMENT.—The Administrator of the En-  
13          vironmental Protection Agency (referred to in this section  
14          as the “Administrator”) shall establish a program under  
15          which the Administrator shall provide to each State (as  
16          defined in section 302 of the Clean Air Act (42 U.S.C.  
17          7602)) that elects to participate and that submits an ap-  
18          plication under subsection (b) a grant for use by the State  
19          in accordance with subsection (c).

20          (b) APPLICATION.—To be eligible to receive a grant  
21          under this section, a State shall submit to the Adminis-  
22          trator an application at such time, in such manner, and  
23          containing such information as the Administrator may re-  
24          quire.

25          (c) USE OF FUNDS.—



1           (1) IN GENERAL.—A State shall use a grant  
2 provided under this section—

3           (A) to update any applicable State or local  
4 air permitting regulations under the Clean Air  
5 Act (42 U.S.C. 7401 et seq.) to incorporate en-  
6 vironmental regulations relating to output-based  
7 emissions standards in accordance with relevant  
8 guidelines developed by the Administrator  
9 under paragraph (2); or

10           (B) if the State has already updated all  
11 applicable State and local permitting regula-  
12 tions to incorporate those output-based emis-  
13 sions standards, to expedite the processing of  
14 relevant power generation permit applications  
15 under the Public Utility Regulatory Policies Act  
16 of 1978 (16 U.S.C. 2601 et seq.).

17           (2) GUIDELINES.—As soon as practicable after  
18 the date of enactment of this Act, the Administrator  
19 shall publish guidelines for updating State and local  
20 permitting regulations under the Clean Air Act (42  
21 U.S.C. 7401 et seq.) that—

22           (A) provide credit, in the calculation of the  
23 emission rate of the facility, for any thermal en-  
24 ergy produced by combined heat and power

1           technology or waste heat to power technology;  
2           and

3                   (B) apply only to generation units that  
4           produce 5 megawatts of electrical energy or  
5           less.

6           (d) MAXIMUM AMOUNT.—The amount of a grant pro-  
7   vided under this section shall not exceed \$100,000.

8           (e) AUTHORIZATION OF APPROPRIATIONS.—There is  
9   authorized to be appropriated to the Administrator to  
10   carry out this section \$5,000,000.